UNITED STATES PATENT AND TRADEMARK OFFICE

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10/800,529	03/15/2004	Matthew David Bomhoff	TUC920030179US1	1316

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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/800,529	BOMHOFF ET AL.
	Examiner	Art Unit
	JASON E. MATTIS	2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19 and 21-32* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 14-16, 19, 21-27 and 29-31* is/are rejected.

7)☒ Claim(s) *8-13, 17, 18, 28 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to the Amendment filed 1/9/09. Claim 20 has

been canceled. New claim 32 has been added. Claims 1-19 and 21-32 are currently

pending in the application.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 2, 4, 5, 7, 14-16, 19, 22, 23, 25-27, 30, and 31 are rejected under 35

U.S.C. 103(a) as being unpatentable over Hutchinson et al. (U.S. Pat. 5084870) in view

of Eldridge et al. (U.S. Publication US 2004/0223460 A1).

With respect to claims 1, 19, 30, and 31, Hutchinson et al. discloses an

apparatus operating a method using computer code stored on a computer readable

medium for identifying network mis-cabling **(See the abstract, column 10 lines 38-58,**

and Figure 7 of Hutchinson et al. for reference to an apparatus and method for

detecting invalid network topology connections). Hutchinson et al. also discloses a

detection module detecting a new connection facilitated at a network switch forming part

of a data network **(See column 13 lines 17-40 and Figure 8 of Hutchinson et al. for**

reference to detecting a new physical connection at a switching device when a

request is received in step 304). Hutchinson et al. further discloses the network

comprising a plurality of network switches wherein each network switch is connected to

at least one non-switch network device **(See column 5 lines 23-38 and Figure 5 of**

Hutchinson et al. for reference to a LAN 150 comprising a plurality of DAS

stations, which area switches, with each DAS connected to at least one SAS

station, which is a non-switch network device). Hutchinson et al. also discloses a

comparison module comparing the new connection to a network switch connection rule

if the new connection is a switch connection, else comparing the new connection to a

non-switch connection rule **(See column 13 lines 41-59, column 16 lines 21-40 and**

Figures 11-16 of Hutchinson et al. for reference to determining if a new

connection is a connection of type A, B, or M corresponding to a connection to a

dual attachment station, which is a switch, and if so comparing the connection to

a type A, B, or M, switch connection rule, else determining if the new connection

is a connection of type of type S corresponding to a connection to a single

attachment station, which is not a switch). Hutchinson et al. further discloses each

connection rule defining a cabling connection and a network topology **(See column 13**

lines 41-59 and Figure 8 of Hutchinson et al. for reference to comparing the new

connection from the request to rules defining valid connection types that form a

valid network topology in a connection matrix in step 328). Hutchinson et al. also

discloses the switch connection rule allowing communication to a second network

switch in a separate sub-network over two loop topology external cables **(See column 5**

line 23 to column 6 line 4 and Figure 5 of Hutchinson et al. for reference to A and

B connection types and corresponding rules that allow DAS stations to connect

to each other DAS stations using two loop topology external cables with each

DAS station forming a separate sub-network). Hutchinson et al. further discloses the

non-switch connection rule allowing communications over a point-to-point topology sub-

network cable **(See column 5 line 23 to column 6 line 4 and Figure 5 of Hutchinson**

et al. for reference to M and S connection types and corresponding rules that

allow SAS stations to use duplex point to point physical connections to connect

with a DAS station forming a sub-network). Hutchinson et al. also discloses a

cabling connection module to control authorization of a network communication over the

new connection in accordance with the connection rule **(See column 13 line 60 to**

column 14 line 6 and Figure 8 of Hutchinson et al. for reference to either

permitting data transfer over the new connection or not in accordance with the

connection matrix comparison result). Hutchinson et al. does not specifically

disclose a connection rule depending on a type of cabling.

     With respect to claim 14, Hutchinson et al. discloses a system for identifying

network mis-cabling comprising a data network comprising a plurality of network

switches each connected to at least one non-switch device **(See the abstract, column**

5 lines 23-38, and Figure 5 of Hutchinson et al. for reference a method an

apparatus for detecting invalid topologies in a LAN 150 comprising a plurality of

DAS stations, which area switches, with each DAS connected to at least one SAS

station, which is a non-switch network device). Hutchinson et al. also discloses a

first network switch and a second network device with a cable making a new connection

between the first switch and the second device **(See the abstract, column 5 lines 23-**

38, and Figure 5 of Hutchinson et al. for reference to a system including an

apparatus for detecting invalid network topology connections and for reference

to multiple network devices with external cabling making new connections

between the devices, as shown in Figure 5). Hutchinson et al. also discloses

comparing the new connection to a switch connection rule if the new connection is a

switch connection, else comparing the new connection to a non-switch connection rule

(See column 13 lines 41-59, column 16 lines 21-40 and Figures 11-16 of

Hutchinson et al. for reference to determining if a new connection is a connection

of type A, B, or M corresponding to a connection to a dual attachment station,

which is a switch, and if so comparing the connection to a type A, B, or M, switch

connection rule, else determining if the new connection is a connection of type of

type S corresponding to a connection to a single attachment station, which is not

a switch). Hutchinson et al. further discloses a cabling connection module configured

to refuse network service via the new connection prior to a determination that the new

connection is a legal connection according to a connection rule defining a cabling

connection and a network topology **(See column 10 lines 38-58, column 13 line 17 to**

column 14 line 6, and Figures 7 and 8 of Hutchinson et al. for reference to a

module not permitting data to be sent over a new connection until it is

determined that the connection is valid, as shown by the method in Figure 8, and

for reference to comparing a connection to rules defining valid connection types that form a valid cabling connection and network topology in a connection matrix in step 328). Hutchinson et al. also discloses the switch connection rule allowing communication to a second network switch in a separate sub-network over two loop topology external cables **(See column 5 line 23 to column 6 line 4 and Figure 5 of Hutchinson et al. for reference to A and B connection types and corresponding rules that allow DAS stations to connect to each other DAS stations using two loop topology external cables with each DAS station forming a separate sub-network)**. Hutchinson et al. further discloses the non-switch connection rule allowing communications over a point-to-point topology sub-network cable **(See column 5 line 23 to column 6 line 4 and Figure 5 of Hutchinson et al. for reference to M and S connection types and corresponding rules that allow SAS stations to use duplex point to point physical connections to connect with a DAS station forming a sub-network)**. Hutchinson et al. does not specifically disclose a connection rule defining a type of cabling.

With respect to claim 15, Hutchinson et al. discloses a system for identifying network mis-cabling **(See the abstract of Hutchinson et al. for reference to a system for detecting invalid network topology connections)**. Hutchinson et al. also discloses a host server having a host bus adapter **(See column 10 lines 25-58 and Figure 7 of Hutchinson et al. for reference to a station 250 that acts as a host server including MAC modules, which are bus adapters)**. Hutchinson et al. also discloses a first network switch having a network adaptor **(See column 5 lines 23-38**

and Figure 5 of Hutchinson et al. for reference to the system including multiple network switches with adapters for cabling connections). Hutchinson et al. further discloses the first network switch forming part of a network comprising a plurality of network switches wherein each network switch is connected to at least one non-switch network device **(See column 5 lines 23-38 and Figure 5 of Hutchinson et al. for reference to a LAN 150 comprising a plurality of DAS stations, which area switches, with each DAS connected to at least one SAS station, which is a non-switch network device).** Hutchinson et al. further discloses an external cable connecting the host bus adapter to the network adapter **(See column 5 lines 23-38, column 10 lines 25-58, and Figures 5 and 7 of Hutchinson et al. for reference to connecting the switch 250 to other switches using external cabling).** Hutchinson et al. also discloses a cabling connection apparatus detecting and reporting the first new connection to the first network switch **(See column 13 lines 17-40 and Figure 8 of Hutchinson et al. for reference to detecting a new physical connection at a switching device and for reference to reporting the new connection using a request that is received in step 304).** Hutchinson et al. also discloses a comparison module comparing the new connection to a switch connection rule if the new connection is a network switch connection, else comparing the new connection to a non-switch connection rule **(See column 13 lines 41-59, column 16 lines 21-40 and Figures 11-16 of Hutchinson et al. for reference to determining if a new connection is a connection of type A, B, or M corresponding to a connection to a dual attachment station, which is a switch, and if so comparing the connection to a type A, B, or**

M, switch connection rule, else determining if the new connection is a connection

of type of type S corresponding to a connection to a single attachment station,

which is not a switch). Hutchinson et al. further discloses a comparison module

determining if the first new connection is a legal cabling connection, with each

connection rule defining a cabling connection and a network topology **(See column 13**

lines 41-59 and Figure 8 of Hutchinson et al. for reference to comparing the new

connection to rules defining valid cabling connection types that form a valid

network topology in a connection matrix in step 328). Hutchinson et al. also

discloses the switch connection rule allowing communication to a second network

switch in a separate sub-network over two loop topology external cables **(See column 5**

line 23 to column 6 line 4 and Figure 5 of Hutchinson et al. for reference to A and

B connection types and corresponding rules that allow DAS stations to connect

to each other DAS stations using two loop topology external cables with each

DAS station forming a separate sub-network). Hutchinson et al. further discloses the

non-switch connection rule allowing communications over a point-to-point topology sub-

network cable **(See column 5 line 23 to column 6 line 4 and Figure 5 of Hutchinson**

et al. for reference to M and S connection types and corresponding rules that

allow SAS stations to use duplex point to point physical connections to connect

with a DAS station forming a sub-network). Hutchinson et al. also discloses

controlling authorization of a network communication over the new connection in

accordance with the rules **(See column 10 lines 38-58, column 13 line 17 to column**

14 line 6, and Figures 7 and 8 of Hutchinson et al. for reference to a module

controlling authorization of network communication over the new connection by

not permitting data to be sent over a new connection until it is determined that

the connection is valid, as shown by the method in Figure 8). Hutchinson et al.

does not specifically disclose a connection rule depending on a type of cabling.

With respect to claims 1, 14, 15, 19, 30, and 31, Eldridge et al., in the field of

communications, discloses using a connection rule depending on a type of cabling **(See**

the abstract, pages 2-3 paragraphs 25-28, and claim 8 of Eldridge et al. for

reference to automatically detecting a problem with a router cable connection by

detecting an incorrect type of cable being used). Using a connection rule depending

on a type of cabling has the advantage of allowing unskilled users to save time when

installing and troubleshooting router connections by informing the user when an

incorrect type of cabling has been used **(See the abstract of Eldridge et al. for**

reference to this advantage).

It would have been obvious for one of ordinary skill in the art at the time of the

invention, when presented with the work of Eldridge et al., to combine using a

connection rule depending on a type of cabling, as suggested by Eldridge et al., with the

system and method of Hutchinson et al., with the motivation being to allow unskilled

users to save time when installing and troubleshooting router connections.

With respect to claim 2, Hutchinson et al. discloses determining if the new

connection is a switch connection **(See column 5 line 51 to column 6 line 33, column**

13 lines 41-59, and Figure 8 of Hutchinson et al. for reference to determining the

type of connection including determining if the connection is a switch

connection, i.e. a connection from a concentrator, or a non-switch connection, i.e.

a connection from an end station).

With respect to claims 4, 16, and 22, Hutchinson et al. discloses an isolation

module isolating the connection in response to determining that the new connection is

not legal (See column 14 lines 17-43 of Hutchinson et al. for reference to rejection

a connection as not valid and isolating the invalid connection).

With respect to claims 5 and 23, Hutchinson et al. discloses an insertion

module inserting the new connection in response to determining that the new

connection is legal (See column 13 line 60 to column 14 line 6 and Figure 8 of

Hutchinson et al. for reference to permitting data transfer over connection

determined to be valid).

With respect to claims 7 and 25, Hutchinson et al. discloses a verification

module determining if the new connection conflicts with an existing connection separate

from the new connection (See column 13 line 17 to column 14 line 6 and Figure 8 of

Hutchinson et al. for reference to determining if a new connection conflicts with

other existing connections according to the connection matrix rules).

With respect to claim 26, Hutchinson et al. discloses establishing a connection

request record identifying the corresponding new connections at the network switch and

a second network device (See column 13 lines 17-59 and Figure 8 of Hutchinson et

al. for reference to using singling to establish a connection request identifying

both ends of a new physical connection).

With respect to claim 27, Hutchinson et al. discloses obtaining a second

network device identifier descriptive of the second connection **(See column 13 lines**

17-59 and Figure 8 of Hutchinson et al. for reference to devices on both sides of

the new connection exchanging station connection identification information).

4.   Claims 3, 6, 21, 24, and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hutchinson et al. in view of Eldridge et al., and in further view of

Dolbec et al. (U.S. Publication US 2006/0153562 A1).

With respect to claims 3, 21, and 29, the combination of Hutchinson et al. and

Eldridge et al. does not disclose notifying a host of the new connection and storing a

connection record in a database.

With respect to claims 3, 21, and 29, Dolbec et al., in the field of

communications, discloses notifying a host of a new connection and storing a

connection record in a database **(See the abstract and page 3 paragraphs 51-53 of**

Dolbec et al. for reference to automatically displaying new connections on a host

GUI and for reference to storing connection information). Notifying a host of a new

connection and storing a connection record in a database has the advantage of allowing

a user to be aware of all new and existing network connections that are being

automatically processed.

It would have been obvious for one of ordinary skill in the art at the time of the

invention, when presented with the work of Dolbec et al., to combine notifying a host of

a new connection and storing a connection record in a database, as suggested by

Dolbec et al., with the system and method of Hutchinson et al. and Eldridge et al., with

the motivation being to allow a user to be aware of all new and existing network

connections that are being automatically processed.

With respect to claims 6 and 24, the combination of Hutchinson et al. and

Eldridge et al. does not disclose altering an existing connection on the data network.

With respect to claims 6 and 24, Dolbec et al. discloses altering an existing

connection on a network **(See page 3 paragraph 65 of Dolbec et al. for reference to**

altering existing connections in response to detecting an invalid connection).

Altering an existing connection on a network has the advantage of allowing an illegal

connection to become a legal connection by changing other network connections.

It would have been obvious for one of ordinary skill in the art at the time of the

invention, when presented with the work of Dolbec et al., to combine altering an existing

connection on a network, as suggested by Dolbec et al., with the system and method of

Hutchinson et al. and Eldridge et al., with the motivation being to allow an illegal

connection to become a legal connection by changing other network connections.

Allowable Subject Matter

5.   Claims 8-13, 17, 18, 28, and 32 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

Response to Arguments

6.   Applicant's arguments filed 1/9/09 have been fully considered but they are not

persuasive.

        Regarding Applicant's arguments that Hutchinson et al. does not teach the newly

added claim limitation stating "the switch connection rule allowing communications to a

second network switch in a separate sub-network over two loop topology external

cables and the non-switch connection rule allowing communication over a point-to-point

topology sub-network cable", the Examiner respectfully disagrees. As shown in the

rejections above, Hutchinson et al. discloses A and B connection types and

corresponding rules that allow DAS stations, which are network switch, to connect to

each other DAS stations using two loop topology external cables (See column 5 line 23

to column 6 line 4 and Figure 5 of Hutchinson et al.). Each DAS station along with the

SAS stations connected to the DAS station forms a part of the overall LAN, which is

equivalent to a sub-network, as claimed. Hutchinson et al. also discloses M and S

connection types and corresponding rules that allow SAS stations to use duplex point to

point physical connections to connect with a DAS station (See column 5 line 23 to

column 6 line 4 and Figure 5 of Hutchinson et al.). Thus, the SAS stations use point-to-

point topology sub-network cable to connect with a DAS joining a sub-network formed

by the DAS. Therefore, Hutchinson et al. does disclose each of the newly added claim

limitations of claims 1, 14, 15, 19, 30, and 31.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JASON E. MATTIS whose telephone number is

(571)272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                    Jason E Mattis
                                                    Examiner
                                                    Art Unit 2416

JEM
        /Jason E Mattis/
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